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Date: February 17, 2009 **Time Sent:**

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Examiner Allan Olsen	U.S. PATENT AND TRADEMARK OFFICE	571-273-8300	

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Re: **Application Serial No. 10/774,417**
Attorney Docket No.: 050212-0559

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February 17, 2009

VIA FACSIMILE (571-273-8300)

Examiner Allan Olsen
The U.S. Patent and Trademark Office

Re: U.S. Patent Application No. 10/774,417
For: METHOD OF MAKING DIAMOND PRODUCT AND DIAMOND PRODUCT
Inventor: Yosihki NISHIBAYASHI, et al.
Our Reference: 050212-0559

Dear Mr. Olsen:

Regarding the above identified application, our client agreed the Examiner's amendment. Attached please find our proposed amendments to independent claims 1 and 12 for the Examiner's amendment. If you have any questions or comments regarding the amendments, or you need further amendments, please let us know.

Very truly yours,

Takashi Saito (Limited Recognition No. L0123)

BKS/TS/

Enclosures
*Not admitted to practice in the District of Columbia; admitted only in NY.
Supervised by principals of the Firm who are members of the District of Columbia Bar.

Proposed Claim Amendment (Independent claims 1 and 12 only)

1. (Currently Amended) A method of making a diamond product having a projection or a depression on a surface thereof by etching, said method comprising the steps of:

forming a diamond substrate with a mask layer including a metal layer in at least one part thereof; [[and]]

etching said diamond substrate formed with said mask layer with a plasma of a mixed gas composed of a gas containing an oxygen atom a gas containing a fluorine atom; and

monitoring intensity ratio A/B of the mixed gas, where A is an intensity of an emission peak caused by atomic oxygen and B is an intensity of an emission peak caused by molecular oxygen,

wherein said fluorine atom has a concentration within the range of 0.04% to 6% with respect to the total number of atoms in said mixed gas, said plasma is produced by generating a high-frequency discharge between two plate electrodes, said high-frequency discharge is generated by supplying an electric power of less than 1.0 not less than 0.28 W/cm2 between said plate electrodes, and said mixed gas further contains nitrogen gas, thereby to form the diamond product having the projection or depression with a side face with an angle of inclination of at least 78 degrees,

wherein said mixed gas contains nitrogen gas in an amount such that the intensity ratio A/B of said mixture is greater than the intensity ratio A/B of the mixed gas with no nitrogen, ~~where A is the intensity of an emission peak caused by atomic oxygen and B is the intensity of an emission peak caused by molecular oxygen~~.

12. (Currently Amended) A method of making a diamond product by etching a diamond substrate, said method comprising the steps of:

etching said diamond substrate using a plasma of a mixed gas, wherein the plasma of the mixed gas comprises oxygen atoms, fluorine atoms, and nitrogen atoms;

generating a high-frequency discharge between two plate electrodes by supplying an electric power of less than 1.0 not less than 0.28 W/cm2 between said plate electrodes;

monitoring intensity ratio A/B of the mixed gas, where A is an intensity of an emission peak caused by atomic oxygen and B is an intensity of an emission peak caused by molecular oxygen, and

wherein the mixed gas has a fluorine atom concentration within the range of 0.04% to 6% with respect to the total number of atoms in said mixed gas, and

wherein said mixed gas contains nitrogen gas in an amount such that the intensity ratio A/B of said mixture is greater than the intensity ratio A/B of the mixed gas with no nitrogen, ~~where A is the intensity of an emission peak caused by atomic oxygen and B is the intensity of an emission peak caused by molecular oxygen~~.